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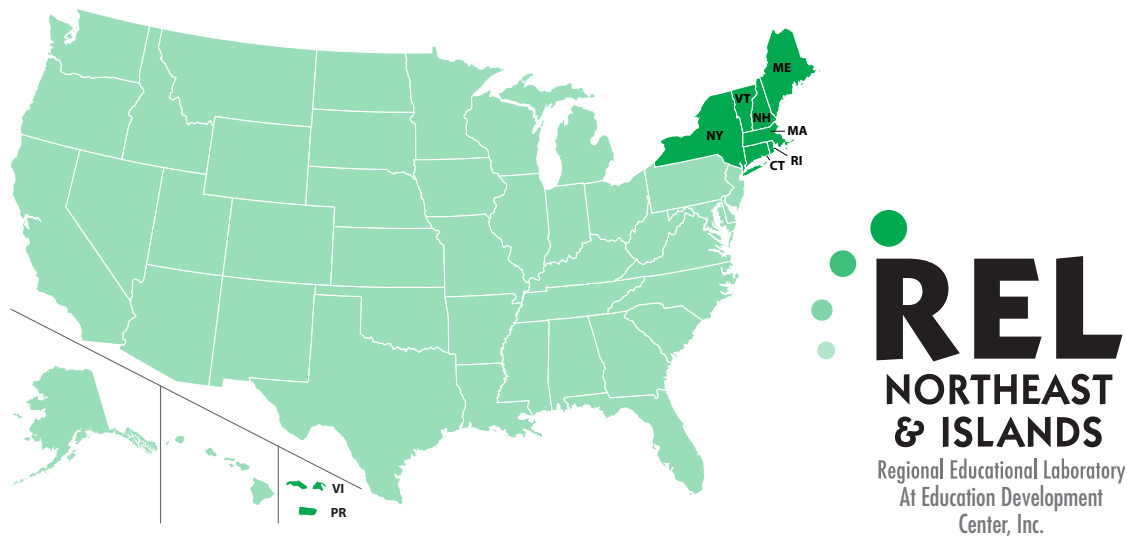
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# Performance patterns for students with disabilities in grade 4 mathematics education in Massachusetts

**This report—analyzing the mathematics performance of grade 4 students with disabilities in Massachusetts across several metrics (by locale-need combination categories, in top-performing schools, and relative to general education students)—finds that the proportion of students with disabilities scoring proficient fell by less than 1 percentage point between 2004 and 2006. The proficiency gap between general education students and students with disabilities was 30 percentage points in 2006 and decreased by almost 2 percentage points over the period.**

Across the country states and school districts need to improve the mathematics performance of students with disabilities. Not only has this population of students increased since the 1970s, but there have also been changes in education expectations and accountability under the requirements of the Individuals with Disabilities Education Acts of 1997 and 2004 and the No Child Left Behind (NCLB) Act of 2001. NCLB, in particular, has cast light on the generally low mathematics performance of many students with disabilities and on the achievement gaps between this subgroup and general education students. Performance trends in the

Northeast and Islands Region mirror those of the country.

To clarify this complex issue, this report presents descriptive and inferential analyses of mathematics achievement patterns for grade 4 students with disabilities and general education students in Massachusetts. Three research questions are examined:

1. What is the mathematics performance of public school grade 4 students with disabilities in Massachusetts?
2. How has the performance of grade 4 students with disabilities and grade 4 general education students changed over time?
3. What is the gap in proficiency percentages between grade 4 general education students and grade 4 students with disabilities?

The report finds that in 2006, 15.3 percent of grade 4 students with disabilities reached proficiency on the Massachusetts Comprehensive Assessment System exam. The performance of students with disabilities differed across the locale-need combination categories. The highest percentage of students scoring proficient attended rural low-need schools. In schools

where the percentage of students with disabilities scoring proficient was in the top 10 percent of all schools, 47 percent of students with disabilities reached proficiency, compared with only 12.7 percent in other schools. The schools at the top of the distribution included schools from each locale and from each need level.

From 2004 to 2006 the proportion of students with disabilities scoring proficient decreased from 15.7 percent to 15.3 percent. The proportion of proficient general education students fell from 48.6 percent to 46.4 percent. Within locale-need combination categories, the proficiency improvement was highest for students in rural low-need schools (a 1 percentage point gain). Across the state 43.7 percent of schools exhibited improved proficiency from 2004 to 2006.

The proficiency gap between general education students and students with disabilities was 30 percentage points in 2006, a 2 percentage point decrease from 2004. That change reflected decreases in proficiency among both groups, with general education students falling more.

The gap shrank in suburban low- and medium-need schools and in rural low- and medium-need schools. But the gap widened in high-need schools across all locales and in urban schools across all need categories. At the school level, the proficiency gap narrowed from 2004 to 2006 (without a decrease in performance among general education students) in 12.7 percent of schools with appropriate data.

In addressing the research questions, this report illustrates the analyses that state and district leaders can conduct with publicly reported data, along with the ways the findings can be interpreted. The limitations of the analyses come from examining cross-sectional data on the proportion of students scoring proficient rather than longitudinal data on actual student scores, and from lacking information on the types and severity of disabilities. The findings and limitations are important as states move forward in analyzing subgroup performance and proficiency gap data and in making data-driven decisions.

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